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ECONOMIC AFFAIRS

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CONTENTS

ECONOMIC POLICY, ORGANIZATION & MANAGEMENT

PROGRAMS TO IMPROVE PRODUCTION EFFICIENCY DESCRIBED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 81 pp 3-10

[Article by Ya. Ryabov, first deputy chairman of the USSR Gosplan: "Questions of Elaborating Goal-Oriented Integrated Programs"]

[Text] The solution to the most important tasks of Soviet society's development on the basis of accelerating the economy's conversion to a path of intensification to an ever-greater degree is determined by scientific and technical progress and by successes in the actual use of their results in the national economic sectors.

The rise of new, more complicated intersectorial and interregional problems requires both the overcoming of the existing trends in economic, technical and technological development as well as definite changes in the current forms of planning, managing and organizing social production. It is a question primarily of broadening the use of the specific program method in planning and management and the goal-oriented integrated programs are the fullest form of realizing this. Even at the 25th CPSU Congress, L. I. Brezhnev said on this question: "Here uniform, centralized programs are needed which encompass all stages of the work from designing to practical implementation. It is important that in each instance there be specific bodies and specific individuals who bear all responsibility and who coordinate all the efforts within the framework of one or another program."[1]

The Decree of the CPSU Central Committee and the USSR Council of Ministers on Improving the Economic Mechanism has outlined programs of primary significance, including: for saving fuel and metal, for the economic development of the BAM [Baykal-Amur Mainline] zone, for reducing the use of manual labor and increasing the production of new consumer goods. There are also scientific and technical programs. Within the state plan for each such problem, a directive and address document is being prepared and this represents a full range of socioeconomic, production, scientific research, economic organizational and other tasks and measures aimed at achieving the set goal and specific end results. This range of measures has been coordinated in terms of the resources, dates and executors.

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[1]"Materialy XXV s'yezda KPSS" [Materials of the 25th CPSU Congress], Moscow, Politizdat, 1978, p 61.

Our nation has entered the 11th Five-Year Plan possessing powerful scientific and technical potential and millions of highly skilled scientists, engineers and technicians capable of carrying out the posed tasks. The sphere of science and scientific services alone employs around 4.3 million persons, including 1.4 million scientific workers. Expenditures on scientific research in 1981 will reach 22.6 billion rubles or approximately 4.5 percent of national income.

The discoveries of Soviet scientists are the sources of new promising scientific endeavors. Major results have been obtained in a number of areas of mathematics, computer and semiconductor technology, theoretical physics, lasers, fiber optics, chemistry and biology.

Soviet inventors have made an important contribution to the development of Soviet and world science and technology. In 1980 alone, around 95,000 inventions were registered in the USSR.

Over the years of the Tenth Five-Year Plan a large range of work was carried out to create, develop and produce new equipment. Some 17,500 new types of industrial products were put into series production, 812,000 units of production equipment were modernized and more than 9,000 obsolete types of machinery and equipment were taken out of production. This significantly surpassed the analogous indicators for the Ninth Five-Year Plan. The technical level of the produced product has increased. Thus, the proportional amount of products carrying the State Quality Mark has increased from 5.2 percent in 1975 to 15.4 percent in 1980. At the start of 1981 the nation was producing around 88,000 products with the Quality Mark.

At the same time the pace of introducing scientific developments and technical achievements has lagged behind the requirements of practice and the existing capabilities. Ultimately this has led to significant national economic losses. For this reason we must not tolerate the slowness and lag in developing promising projects in a number of scientific areas. This is primarily a question of creating and introducing new, highly productive equipment in certain industrial sectors, new types of transport, progressive structural materials, chemical products and plastics. Such a situation inevitably leads to a definite disruption of proportions in renewing fixed productive capital. According to the data of the USSR State Committee for Science and Technology [GKNT], the optimum withdrawal of fixed productive capital in industry is presently considered to be 5.6 percent a year. Consequently, the complete replacement of the capital should occur in approximately 17 years. But, unfortunately, the process of equipment replacement has been drawn out over longer times.

At many enterprises, particularly those of the Mintyazhmash [Ministry of Heavy and Transport Machine Building], Minenergomash [Ministry of Power Machine Building] and the Minchermet [Ministry of Ferrous Metallurgy], a significant portion of the equipment has long since served its amortization life, it is obsolete and worn out and this reduces production efficiency and increases expenditures on major overhauls. As a result over 3.9 million persons are employed in our nation in major overhauls and in a number of instances expenditures for this exceed the initial cost of the equipment.

For eliminating such shortcomings as well as for maintaining the priorities for a number of major scientific and technical areas and for shortening the time of creating and developing new equipment and production methods in the 11th Five-Year Plan, 168 scientific and technical programs are being worked out on a planned basis and implemented, and of these programs 40 are goal-oriented integrated ones. Their ultimate aim is the full-scale realization of the most effective developments in the national economy during the current 5 years. More than 120 programs are oriented at solving major scientific and technical problems. The scientific and technical programs provide for an entire range of interrelated measures from scientific research to the practical implementation of the results in the national economy, including series production of the new products and the development of production processes.

The changeover to the special program method of planning will provide the most rational use of scientific and engineer personnel as well as material and financial resources for carrying out the urgent tasks of national economic development.

In the area of fuel and energy resources, the main goal of the integrated programs is to increase economic efficiency in the extraction and production of fuel and energy and their economic consumption. In electric power it is to develop new high powered and economic powered units. In the development of nuclear reactors a policy has been outlined of increasing their unit capacity up to 1.5 million kilowatts. Work is to be accelerated in developing the fast neutron reactors making it possible to increase the utilization of uranium ore by scores of times. In the area of pipeline transport for oil and gas, the integrated program envisages research and development aimed at increasing the pressure up to 100-120 atm. and this will make it possible to sharply increase the pipeline capacity.

As a total, according to the preliminary data, the programs envisage the development of more than 4,000 types of new equipment and production processes of which approximately 60 percent is to be in production in the 11th Five-Year Plan. In addition, the goal-oriented integrated programs envisage a further broadening of the output scale of new types of equipment developed in the Tenth Five-Year Plan.

The annual economic effect from the carrying out of the scientific and technical programs during the last year of the current five-year plan has been estimated at 16.5 billion rubles. There are plans to conditionally free 4.2 million workers, save 13.4 billion kilowatt hours of electric power, 108 million tons of conventional fuel units, 6.3 million tons of ferrous metals and 485,000 tons of nonferrous metals.

The total expenditures on the programs in the 11th Five-Year Plan will be 39 billion rubles, including 11.5 billion rubles on scientific research and experimental design. Capital investments are to be 27.5 billion rubles, including 5.3 billion rubles for the development of experimental and experimental-industrial units for working out production processes and major types of new equipment with the remainder going for the development of production capacity. The repayment time for the expenditures is not to exceed 3 years.

At present many workers are still employed in manual, monotonous and heavy physical labor. Hence the task of enormous importance of freeing a significant portion of these persons from low-productive manual labor. This is particularly true for loading, warehousing and auxiliary jobs. The quotas set for the Tenth Five-Year Plan in

the area of producing equipment for the given purposes were not fully carried out. This was due both to the incomplete allocation of capital investments for the Mintyazhmash, Minstroydormash [Ministry of Construction, Road and Municipal Machine Building], Minelektrotekhprom [Ministry of Electrical Equipment Industry] and Minavtoprom [Ministry of Automotive Industry] as well as due to the fact that even these reduced amounts of capital investments were not fully utilized.

As a result the annual growth rate for the products of materials handling machine building during the Tenth Five-Year Plan was 6 percent in comparison with 7.5 percent in the Ninth. Due to the insufficient equipping of workers employed in the transporting, loading and unloading of freight with materials handling machinery and equipment, in 1979, the volume of work performed manually in industry was around 3 billion ton-operations or 10 percent of the total volume of materials handling work.

In the 11th Five-Year Plan there are plans to spend over 900 million rubles of capital investments for developing the capacity of materials handling machine building in the four leading ministries. This includes 440 million rubles for construction and installation work. These figures are, respectively, 2.4- and 2.1-fold more than in the Tenth Five-Year Plan. Because of this the production of materials handling equipment by 1985 should rise up to 2.4 billion rubles and considering internal production in the machine building ministries to around 5 billion rubles.

For the 11th Five-Year Plan the ministries and departments have been given high quotas for the production and introduction of program-controlled automatic manipulators (robots). Each of the machine building ministries is the head organization for the creation, production and introduction of the individual types of robots. Thus, the Minelektrotekhprom has been made responsible for developing robots for welding, electrothermal and plasma processing as well as electric drive sets; the Minkhimmash [Ministry of Chemical and Petroleum Machine Building] is responsible for the chemical, pulp-paper, oil refining and petrochemical industries; the Minsel'khozmash [Ministry of Tractor and Agricultural Machine Building] and Minzhivmash [Ministry of Machine Building for Animal Husbandry and Fodder] are responsible for agriculture. Great tasks have been entrusted to the Minstankoprom [Ministry of Machine Tool and Tool Building Industry]; over the years of the five-year plan, its enterprises should create one-quarter of the total number of industrial robots. The machine tool builders must automate the most important and heaviest operations in all the machine building sectors.

According to the calculations of specialists, the implementing of the designated measures to produce and introduce industrial robots in the new five-year plan will produce an economic effect of around 420 million rubles. The use of the robots will make it possible to increase the equipment operating factor by at least 50 percent, labor productivity will rise by an average of 2-3-fold and approximately 60,000 workers will yield their places to electronic and mechanical assistants.

There are broad opportunities in the area of introducing laser technology. This will be employed in cutting, welding, in the thermohardening of metals, in the pattern cutting of nonmetallic materials, in agriculture, medicine and so forth. Thus, the thermohardening of dies, press molds and rolling mills increases their strength by 2-4-fold in comparison with heat treatment by traditional methods. Laser

technology increases labor productivity by scores of times in the working of superhard materials, including diamond dies. However, this effective area of work as yet is developing slowly and for this reason requires the closest attention both from the planning bodies and the involved ministries and departments.

Equally important is the realization of the work program for the full mechanization of lumber felling and the chemical-mechanical processing of the wood. This envisages the creation and supplying of the lumbering industry with the appropriate system of machines. But the Minsel'khozmash as yet has not begun to organize the production of modernized TT-4M and TB-1M tractors which are to be the basis for creating a system of multiple-operation machines for the full mechanization of lumber felling work. In the new five-year plan the Minstroydormash has not set quotas for the creation and production of machines for building lumber hauling roads and has not completely provided for quotas to expand and reconstruct the lumber machine building plants. The Minoboronprom [Ministry of Defense Industry] has not undertaken measures to begin producing new improved-quality cutting chains for the chain saws.

The scientific and technical programs approved by a joint decree of the USSR Gosplan, the GKNT and the USSR Academy of Sciences for implementation in the 11th Five-Year Plan have been called integrated as they presuppose an integrated solution to a specific problem, starting from the scientific research and development and ending with the industrial introduction of new types of equipment and production methods into the national economy, including organizational questions. Moreover, these programs have been reinforced by a range of measures which ensure their fulfillment, including: the allocating of the required capital investments and material-technical resources, the creation of production equipment and so forth.

An optimum solution to the problem is ensured by a range of measures undertaken by the ministries and departments to provide aid to their partners. It is a question primarily of working out and putting into production the new types of progressive materials and preassembled articles which are essential for the related ministries and which ensure the required parameters and technical level of the newly developed machines, mechanisms and production processes envisaged by the scientific and technical programs.

Thus, in the 11th Five-Year Plan in instrument building more than 800 types of instruments are to be developed and produced for inspection, monitoring and control systems and over 200 automated control systems for production processes and lines are to go into operation. All the work envisaged by the programs is backed up with the necessary capital investments and the expected results from implementing them have been taken into account in the plans to reduce costs and increase labor productivity. But the work has still not gained the proper scope. The role of the chemical industry is well known in increasing the technical level and reducing the material intensiveness of machine building products. In recent years, various decisions have been repeatedly adopted which require the chemical workers to organize the production of such materials. However, the carrying out of a certain portion of these quotas has been frustrated. For this reason it is no accident that certain proposals of the Minelektrotekhprom to develop new types of insulating and composition materials in 1982-1985 for progressive types of electrical machines, devices, light sources and other products as well as a number of progressive structural materials have remained outside of the Minkhimprom's sectorial plan.

The designated programs are sectorial ones but their carrying out is undoubtedly inconceivable without the active and joint participation of many national economic sectors. It is essential to steadily carry out a policy of ensuring developmental priority for the areas of scientific and technical progress envisaged by the programs as this is the future material and technical base of production. Certain workers must free themselves of an underestimation of the prospects as well as the opinion that the most important thing is to provide for today and current affairs. Such thinking is harmful and it impedes the process of technical innovations. With such an approach to the matter it is impossible to speak seriously of an intensification and rise in production efficiency.

In noting the importance of work in carrying out the scientific and technical programs, we should not forget that this work is a component part of the nation's five-year economic and social development plan. In this regard it is advisable to make an overall estimate of the quality of the elaborated five-year plan as concerns scientific and technical development.

In the 11th Five-Year Plan not all the sectors have been given quotas for creating the most effective new types of machines and equipment, materials and technology for the national economy and the dates for developing them have been drawn out. The technical level of certain types of industrial products is still not sufficiently high. The share of the most important types of superior quality products is growing insignificantly in the total production volume. For example, the proportional amount of superior quality pumps and compressors is just 23-24 percent, 14 percent for turbodrills, 19 percent for all types of tractors, 6.1 percent for bulldozers, 15.3 percent for graders and 15-20 percent for production equipment used in the light and food industries.

The introduction of progressive production processes and the automation and mechanization of production merit particular attention. At present this has become the determining factor for a steady rise in labor productivity, in saving labor, material and financial resources, and, consequently, in the competition with the developed capitalist nations. Here a leading role has been given to the machine building sectors of industry. Technical progress in all national economic sectors depends largely upon the development of machine building and upon the quality of the machines and equipment. L. I. Brezhnev described this very well in his speech at the October (1980) Plenum of the CPSU Central Committee: "The joining of science and production and the impact of progressive ideas on it in practical terms are carried out through machines and technology. Hence the incomparable role of machine building in national economic development and in raising labor productivity."[2]

During the years of the Tenth Five-Year Plan, the machine building ministries did a good deal to raise the technical level and quality of the product. However certain types still do not meet present-day requirements. For the basic technical and

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[2]L. I. Brezhnev, "Rech' na Plenume Tsentral'nogo Komiteta KPSS 21 oktyabrya 1980 goda" [Speech at the Plenum of the CPSU Central Committee of 21 October 1980], Moscow, Politizdat, 1980, p 9.

economic indicators such as the specific metal or energy intensiveness, productivity, reliability and durability, many of the developed machines, equipment and instruments lag behind analogous foreign models.

In 1979-1980, there was an evaluation of the technical level of around 20,000 machines and types of equipment produced by machine building. As a result of the check it was established that around one-third of them requires modernization or the removal from production and the replacement by more modern ones.

The basic factors which reduce a product's technical level are the unsatisfactory supply of production with modern production equipment, backward production methods and the limited use of structural materials, high-strength metals and plastics. For example, in many types of construction and road machines, in comparison with the best foreign models, there is a lower unit capacity and, consequently, lower productivity and a shorter service life for the employed engines. According to the estimate of specialists, merely due to the fact that we do not produce the necessary amount of Arctic-type equipment the national economy each year loses around 2 billion rubles.

The problem of accelerating scientific and technical progress is inseparably linked with the need to sharply increase the effectiveness of activities at scientific organizations. With a broad network of different types of scientific research institutions available (and these employ around one-quarter of all the world's scientific personnel), we still have not achieved proper effectiveness from their work. We have not fully solved the problem of differentiating the wages of scientific personnel depending upon the specific contribution of each worker and the end result. It is essential to improve the enterprise incentive system for developing new equipment and this should not be solved in isolation but rather within the limits of the overall production incentive system.

The situation is particularly unsatisfactory in the technical level of developments at the Minzhivmash, the USSR Minlesbumprom [Ministry of Timber, Pulp and Paper and Wood Processing Industry], the USSR Minlegprom [Ministry of Light Industry], the USSR Minpishcheprom [Ministry of Food Industry], the USSR Minmyasomolprom [Ministry of Meat and Dairy Industry] and the USSR Minrybkhoz [Ministry of Fish Industry]. The absence of inventions in the developments shows their poor technical level. The insignificant currency earnings for licenses sold abroad are an indicator of the insufficiently high level of scientific and technical developments. The Minlegpishchemash [Ministry of Machine Building for Light and Food Industry and Household Appliances], the Minzhivmash, the USSR Minpishcheprom and the Minmedprom [Ministry of Medical Industry] are working below their capabilities in this area. In recent years, such ministries as the USSR Mintransstroy [Ministry of Transport Construction], the USSR Minlesprom and the USSR Minlegprom have virtually not been concerned with the sales of licenses.

One of the basic reasons impeding the development of license trade is the extremely slow production of new types of products and production methods into production. Thus, in 1978, the Italian Danieli Firm was sold a license for a horizontal metal casting unit which the enterprises of the USSR Minchermet had begun to work out as early as 1968. This unit could have been sold significantly sooner and under better conditions if the organizations of the Mintyazhmash had promptly carried out its industrial development. There are numerous such examples.

As L. I. Brezhnev pointed out in the Accountability Report to the 26th CPSU Congress, "it is essential to analyze the reasons why we at times lose our priority and spend large amounts of money to purchase abroad equipment and production methods which we ourselves could produce and often with a higher quality."[3]

In those areas of technical development where there is a significant lag, maximum use must be made of the scientific and technical achievements in the socialist and other countries, including by purchasing licenses. Here the main area is to purchase licenses for the means of production in the aim of reproducing them and freeing ourselves from imports of machinery and equipment.

During the Tenth Five-Year Plan, some 230 new types of machines, equipment, instruments, materials and production processes were developed on the basis of licenses. This was 2-fold more than in the Ninth Five-Year Plan. The production volume of license-based industrial products increased by almost double in 1980 in comparison with 1975, while profits increased by 2.5-fold. However, there are substantial drawbacks in the area of utilizing the licenses. For example, for an extended period the Minneftekhimprom [Ministry of Petroleum Refining and Petrochemical Industry] did not use a license purchased for a method to apply rubber to the shafts of paper-making machines while the Minlesbumprom each year was forced to send the shafts to foreign firms for rerubbering.

In increasing the efficient activities of scientific institutions a great deal depends upon their prompt material support and primarily upon creating experimental bases and production which should test out new technical solutions. Unfortunately, at present far from all of the scientific institutions have such facilities. According to data of the USSR TsSU [Central Statistical Administration], these comprise, for example, 67 percent of the total number of the sector's scientific institutions in Glavmikrobioprom [Main Administration for the Microbiological Industry], 74 percent in the USSR Minrybkhoz and 57 percent in the Mintsvetmet [Ministry of Non-Ferrous Metallurgy].

However, regardless of such a situation, the ministries have posed the question of increasing the number of scientific organizations and setting up new institutes without being seriously concerned with the questions of the reallocation of scientific forces, their reorientation toward research on more important problems for the strengthening of the physical plant of existing scientific organizations.

On the questions of strengthening the physical plant of science a great deal depends, of course, upon the planning bodies as well. At present, experimental facilities are set up using capital investments allocated to the sector as a whole. Obviously, in considering the importance of solving the problem, it is essential to think out a mechanism for solving this question and the advisability of elaborating a special plan section on the development and introduction of experimental bases and facilities at scientific organizations.

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[3]"Materialy XXVI s'yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, Politizdat, 1981, p 43.

The question of control over the carrying out of the state plan's quotas is a logical extension of the question concerning an improvement in planning scientific and technical development. No matter how well a plan may be compiled, it is impossible to count on successful fulfillment if proper attention is not paid to the course of its realization.

The presently existing methods of control carried out by the USSR Gosplan sections need improving. The necessity of this derives in the first place from the existing facts of the nonfulfillment of plan quotas for a number of the quantitative and qualitative indicators for national economic development, including for the section "Scientific and Technical Development."

In working out the plan and in providing the corresponding development rates, proportions and qualitative shifts in it, it is essential to aid more actively in ensuring its fulfillment and to achieve precisely that national economic effect which has been intended.

In drawing up a plan the USSR Gosplan and the sectorial ministries provide for a better use of existing production capacity as well as new capacity scheduled to be put into operation, a high level of production and labor discipline, the prompt supply of production with material, financial and labor resources, the prompt supply of transport for delivering raw materials and shipping out finished products as well as the use of scientific and technical achievements. However, an analysis of plan implementation shows that deviations from the planned quotas are most often a consequence of the nonfulfillment of the intended quotas for a number of indicators. Flaws in the work of some enterprises create corresponding difficulties for other related enterprises to carry out the plan.

Up to now definite work has been done to seek out effective ways for national economic development in the 11th Five-Year Plan. Here our planning arsenal has been filled out with the goal-oriented integrated scientific and technical programs. Their goal, like that of the entire five-year plan, is to increase the efficiency and intensity of production as well as raise product quality and reduce its costs. Under these conditions the enterprises should introduce equipment that not only surpasses the best domestic and foreign models but also reduces expenditures per unit of product considering the action of factors related to the location of the productive forces. Only with such a combination will we achieve a further savings of raw products, materials, fuel and labor productivity will be increased.

Over the long run it is essential to strengthen the specific focus of scientific and technical planning, in examining the entire system of measures related to the creation, development and introduction of scientific and technical achievements into the national economy as a single one which ensures the reaching of the ultimate socioeconomic goals, that is, stable growth rates of social production and its increased efficiency.

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ECONOMICAL MATERIAL, ENERGY EXPENDITURE, EFFICIENCY DISCUSSED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 81 pp 11-17

[Article by F. Loshchenkov, first secretary of Yaroslavskiy CPSU Obkom]

[Text] The broad program of economic and social development for the country outlined by the 26th party congress for the 11th Five-Year Plan and the '80s requires involving in production tremendous masses of raw material, fuel-power and other material resources. Their continuously growing production and transportation is increasingly expensive, while reserves of mineral resources are, as we know, irreplaceable. Under such conditions, increasingly economical and rational utilization of all forms of raw and other materials, fuel and power acquires special importance.

In evaluating the importance of thrifty expenditure of national wealth, L.I. Brezhnev noted at the 26th CPSU Congress: "... The core of economic policy is becoming something which would appear to be simple and very ordinary--an economical attitude toward public property, the ability to use fully and advantageously everything that we have. This should be the objective of the initiative of labor collectives and party-mass work."[1] The developed program of measures aimed at raising efficiency of production and intensification of the economy, contains the decree of the CPSU Central Committee and the USSR Council of Ministers "On Intensifying Work on the Economical and Rational Use of Raw Material, Fuel-Power and Other Material Resources."

The requirement of the CPSU 26th Congress that the economy has to be economical found a broad response in Yaroslavskaya Oblast and was accepted as a militant program of action for intensifying the regime of economy and thrift. At the oblast party organizations a certain amount of experience has been accumulated on the mobilization of labor collectives for thrifty expenditure of resources. Moreover, the CPSU obkom directs party organizations, economic managers and specialists and all workers to a comprehensive approach to the problem of economy. Such an approach received a positive appraisal in the decree of the CPSU Central Committee of 19 August 1980 "On the Initiative of the Yaroslavskaya Oblast Party Organization of Achieving Growth of Industrial Production During the 11th Five-Year Plan Without Increasing the Number of Workers."

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1. "Materialy XXVI s"yezda KPSS" [Materials of the 26th CPSU Congress]. Moscow, Politizdat, 1981, p 12.

According to the example of the Rybinsk Production Association of Engine Building most of the oblast's enterprises have worked out in coordination with appropriate ministries comprehensive plans of reequipment of production and social development of the collective prior to 1985 providing for increased total volume of production output and its improved quality without growth of the number of workers. A component part of these plans is reduction of labor intensiveness and materials intensiveness of production output, improvement of its quality, economy of raw and other materials, fuel and all forms of electric power and the creation and quickest possible introduction to production of progressive materials and manufacturing processes, new machines and equipment, reduction of their size and improvement of their reliability and durability.

Positive results may already be seen in the work of realization of these plans. Thus, at machine-building and metalworking enterprises, increased production output without a growth in the number of workers is being basically achieved through a complex of measures relating to the reequipment of basic and auxiliary production. Renewal of the active portion of fixed capital and introduction of high-efficiency equipment are stressed. All this is being reinforced by measures of material and moral stimulation and raising of the qualifications of cadres.

At enterprises of the chemical industry, the chief attention is devoted to modernization of equipment, increasing the capacity of manufacturing machines and mechanization and automation of production. Thus, at the Yaroslavl' Lakokraska Association, the mechanization level of the labor of workers in basic production has already reached 95-98 percent. The oblast's enterprises of light industry are characterized today by an active renewal of the machine park, expansion of servicing zone, mechanization of materials-handling operations. This year for the oblast's industry as a whole, the entire growth of production volume has come from increased labor productivity; approximately half of the products requiring certification are produced with the state Seal of Quality.

The work of fulfillment of the decree of the CPSU Central Committee on the initiative of our oblast party organization has given life to such a form of activity in industry and operation of its sectors as elaboration of regional sectorial plans of measures for the renovation and reequipment of enterprises. Such a plan for 1981-1985 was compiled for the Yaroslavl' enterprises of the USSR Ministry of Instrument Making, Automation Equipment and Control Systems--the Uglich Clock Plant imeni 50-Letiye SSSR and the Orgtekhnika Plant. This plan was approved by the ministry and the CPSU obkom.

Work has become active on the fulfillment of complex plans of reequipment of production and social development of collectives in construction, in transport, in the sphere of trade and consumer services and at kolkhozes and sovkhozes. Measures for boosting efficiency in the use of materials and fuel and power resources have become an inseparable part of these plans in all sectors of the national economy. Party committees are in constant control of the realization of comprehensive plans. Questions relating to this are regularly examined at plenums and meetings of the aktiv, sessions of the obkom bureau, gorkoms and raykoms of the CPSU and meetings of primary party organizations. At the same time, major attention is being paid to improvement of socialist competition for economy and thrift. The results of the work on economical use of material and fuel-power resources are taken into account in totaling the results of socialist competitions of cities, rayons and labor collectives.

More than 170,000 Yaroslavl' workers with individual accounts and most of the enterprises and organizations actively participate in the All-Union Public Review of Efficiency in the Use of Raw and Other Materials and Fuel-Power Resources. During the course of it in the years of the 10th Five-Year Plan, workers in the oblast submitted more than 120,000 proposals aimed at intensification of the regime of economy. The economic gains from the introduction of such proposals amounted to roughly 180 million rubles. Economized materials resulted in production output in the amount of 100 million rubles, including 31.2 million rubles' worth of consumer goods.

For achieving outstanding results in the All-Union Review in 1980 and during the 10th Five-Year Plan, the collectives of the Yaroslavl' Electric Locomotive Repair Plan, the Zarya Sotsialisma Gavrilov-Yamskiy Flax Combine, the Sever Poultry Factory of Yaroslavskiy Rayon and the Krasnaya Zarya Kolkhoz of Bol'shesel'skiy Rayon were awarded Honorary Certificates of the AUCCTU, the Komsomol Central Committee and Gossnab USSR.

The socialist commitments adopted by the oblast's workers for 1981 contain a special section for economy of power and material resources, providing for a saving of 75,000 tons of conventional fuel, 125 million kilowatt-hours of electric power, 300,000 gigacalories of thermal energy, 6,500 tons of rolled ferrous metals, 10,000 tons of motor-vehicle gasoline and diesel fuel, 2,000 tons of cement, 1,000 cubic meters of timber. The bureau of the CPSU obkom, the oblispolkom and the presidium of the oblast council of trade unions have worked out the conditions of a socialist competition of the collectives of enterprises of industry, transport and construction for achieving the highest indicators in economy of electric, thermal power and fuel. The results of the competition are totaled quarterly for work results since the start of the year.

The development of the competition for economy of resources promotes the oblast public review of higher efficiency of production and quality of work for 1981-1985 under the motto "More high-quality production with a fewer number of workers" declared by the CPSU obkom, the oblispolkom, the oblast council of trade unions and the Komsomol obkom. The main tasks of collectives of associations, enterprises and organizations participating in the review are attainment of the highest indicators in work; faster growth of labor productivity; improved quality of production; economy of raw and other materials, fuel, electric power; an increase in production output with a fewer number of workers because of mechanization and automation of production and the use of the latest achievements of science and technology, including low-waste technology, industrial robots and manipulators, electrophysical, electrochemical and laser methods of finishing parts and machine tools with programmed operation and processing centers.

The study of advanced experience of work of intensifying a regime of economy and thrift is being conducted in all the forms of party, komsomol and economic instruction. At schools of communist labor, special courses were conducted during the 1980/81 educational year dealing with questions of search for additional reserves of economy of material and fuel-power resources. Mounting is widely practiced at enterprises and organizations, on city streets and at squares of visual agitation stands showing the results of the socialist competition for intensification of a regime of economy.

The Yaroslavl' Intersectorial Center of Scientific and Technical Information and the oblast organization of Znaniye Society are actively engaged in the dissemination of experience of thrifty expenditure of raw materials and electric power. At enterprises of industry, transport and construction, scientific-practical conferences, lectures and talks are held and popular-science films on appropriate subject matter are shown. In the dissemination of advanced experience on economy and rational use of raw-material, fuel-power and other material resources, more attention is being given to criticism of deficiences on the pages of the oblast newspaper SEVERNYY RABOCHIY and the city newspaper RYBINSKAYA PRAVDA as well as in broadcasts of oblast radio and television. Control has been increased over the effectiveness of mass information media.

Attention has been increased in regard to questions of economy of labor, material and fuel-power resources on the part of commissions on control of the work of management, which have been created at all party organizations relating to the material-production sphere; approximately 5,500 communists have been elected to them. The CPSU obkom, gorkoms and raykoms and primary party organizations are increasing the activity of committees, posts and groups of people's control for the detection and elimination of defects in the expenditure of raw materials, fuel and electric power. In Yaroslavl' alone people's control city and rayon committees carried out in the first half of the current year 78 checks on the rational use of resources; a number of heads of enterprises were strictly punished for lapses in regard to these questions. On the initiative of the Rostov City People's Control Committee Economy Days are regularly held; at such times, people's inspectors, activists of KOMSOMOL'SKIY PROZHEKTOR and specialists of enterprises and organizations reveal facts of irrational use and losses of power and fuel resources and contribute proposals on the elimination of the disclosed defects. Such work as a whole has made it possible for enterprises in the city to reduce, for example, the consumption of electric power by 5-7 percent without any reduction of production output.

Party and trade-union organizations and councils of scientific-technical societies and of the All-Union Society of Inventors and Rationalizers are devoting constant attention to the developemnt of technical creativity of workers and to increasing their activity in the detection and utilization of reserves relating to economy of material resources. In the oblast, 5,500 public creative brigades and laboratories, bringing together 30,000 persons, are at work. They complete yearly about 10,000 projects aimed at raising efficiency of production and reducing materials and power intensiveness of products with economic results of about 45 million rubles. Thanks to the introduction of efficiency proposals and inventions, 254 million rubles were saved during the years of the 10th Five-Year Plan. The majority of such proposals and inventions provide in addition to increased labor productivity economy of material and fuel and power resources. This assists the review conducted by the oblast council of the All-Union Society of Inventors and Rationalizers for the best production collective in the use of inventions, efficiency proposals, design and technological developments aimed at economy of fuel-power and other material resources.

The struggle for economy at many machine-building enterprises in the oblast begins with the development of a design for a new machine. Party organizations are increasing demands on engineers, designers and technologists for the creation of such

products as would produce maximum economy of material and fuel-power resources in the process of their operation. This year, for example, the Rybinsk Production Association of Engine Building started the production of tractor engines with an operating life of 10,000 instead of 8,000 hours. As a result, users obtain an annual economic saving in the amount of 10 million rubles solely through a reduction in the number of overhauls. It is very important that the expenditure of oil in the course of operation of the new engine is reduced through lower emission of carbon monoxide fumes.

The Yaroslavl' Avtodizel' Production Association is constantly improving the quality of the diesel engines it produces; this makes it possible to obtain a significant economic effect in their operation. Thus during 1980, the saving to the national economy comprised 22.5 million rubles solely with the YaMZ-240B diesel engine intended for installation in the Kirovets tractor; in this connection the hourly fuel expenditure for this engine has been reduced from 55 to 54 kg. On the whole, the national economy obtained an economy in the amount of 249.5 million rubles in 1980 through improvements in the quality and higher operating life of engines produced by the association.

The effort of Yaroslavl's workers in increasing the engine life and reliability of the engines they produce is of tremendous state importance from the point of view of saving of material and labor expenditures. Thus, an increase in the life of the basic engine models produced by the Avtodizel" Assocation of from 6,000 to 10,000 engine-hours produced a national-economic effect in the '70s that has been estimated at 1.730 million rubles; it has replaced the construction of a new engine plant with tremendous capital investment. During the 10th Five-Year Plan alone, measures for boosting the reserve of reliability and quality of items produced by the industry of Yaroslavskaya Oblast saved the state 2.4 billion rubles. It is to be understood that behind this stands the multifaceted painstaking organizational and political educational work of the entire oblast party organizations subordinated to a single aim.

In mobilizing labor collectives for strengthening of a regime of economy, party and trade-union organizations of the oblast attach great importance to the permanently operating production conferences (PDPS). Each year about 8,000 proposals and recommendations adopted by the PDPS are realized. The economic effect from their introduction amounts to millions of rubles. It is very important that the entire collective participates actively in the fulfillment of each proposed measure as a rule. Thus, at the Uglich Clock Plant imeni 50-Letiye SSSR, a session of the permanently operating conference was held in April 1980 on the question "On the State of Affairs at the Plant on Economy and Thriftiness of Fuel, Water and Power Resources. Its participants proposed 20 measures aimed at intensifying the regime of economy. Accordingly, collectives of shops worked out and fulfilled with precision operation schedules of power equipment with consideration being given to an optimum regime of production, persons were appointed by shifts with duties of exercising control over the observance of economical expenditure of power, and commissions for control over the observance of a regime of economy of energy resources have been created and are in operation. As a result, the enterprise saved about 1 million kilowatt-hours of electric power and more than 2,100 gigacalories (5 times more than planned) of heat energy. This year PDPS sessions are being held at all the collectives of enterprises and organizations in the oblast; their agenda is "The Economy Should be Economical."

Good results in economical expenditure of energy resources are being obtained annually by the collective of the Yaroslavl' Plant of Heating Equipment. During the 10th Five-Year Plan, specific expenditures of electric power on the production of a product unit were reduced here 18.1 percent due to introduction of effective organizational and technical measures and increased control at each work place. Energy-saving technology is actively being introduced; the mechanical working of metal is being replaced by stamping and precision casting; the operation of machining and extrusion systems is being automated; and so on. A large-edition newspaper and plant radio ensure publicity on the competition for economy and criticize cases of mismanagement. People's inspectors regularly carry out raids to verify use of power resources. The CPSU obkom conducted a seminar for partkom secretaries and enterprise directors of the oblast for the purpose of study and dissemination of the experience collected by the plant's collective in thrifty utilization of fuel-power and material resources.

The work on dissemination of advanced experience carried out by the oblast's party organizations has made it possible for many labor collectives to successfully deal with the fulfillment of adopted commitments relating to economy of resources. Thus, at the Yaroslavl' Polymer Machine Building Plant savings in the first part of the current year of electric power comprised 4.6 percent and of heat energy--3.1 percent of the norm; at the synthetic rubber plant, they were respectively 3.6 and 3.9 percent and at the plant for diesel accessories--3.1 and 3.7 percent, respectively.

For the oblast as a whole, in the first half of 1981, 67.7 million kilowatt-hours of electric power and 211,300 gigacalories of thermal energy were saved at industrial enterprises and at construction and transport organizations. The number of enterprises overexpending energy was reduced threefold in the past five years, while the amount of overexpenditure in relation to planned consumption was reduced twofold for electric power and sixfold for thermal energy.

The results for the oblast as a whole and for cities, rayons and enterprises emerge from the achievements of collectives of shops and brigades. For example, recently K.A. Rodionova, an outstanding female enameler from Rybinsk Cable plant stated through the oblast newspaper SEVERNYY RABOCHIY that her shop's collective, which had pledged to save during the year 100 tons of copper, has already managed to save 80 tons of this expensive metal which is also short in supply. These tons, Comrade Rodionova emphasized, came from kilograms included in personal accounts of economy. They did not come easily; the enterprise has already attained a high coefficient of use for copper. This was possible because of the great insistence of the shop party organizations and party groups in respect to communists and all members of the collective in the matter of thrift and economy and effectiveness of labor competition on the basis of personal accounts of economy. For example, at the enamel shop, where communists form the vanguard of competitors, M.A. Tyurikova is successfully fulfilling her pledge to complete her personal target by 7 November, saving 360 kg of copper; female enameler V.I. Arkhipova is confidently moving toward her planned objective of saving 400 kg of copper. K.A. Rodionova has committed herself to fabricate in the five-year period no less than 6 tons of enamel-insulated wire from the materials she has saved; the results of the work of the past 8 months show the validity of such a commitment.

Such a proprietary, creative approach to economy of resources is true of many labor collectives that are participants of the socialist competition launched in the oblast

with the slogan "More products of high quality with a fewer number of workers!"

At the same time, many resources have still not been put into operation in this great and important matter of intensifying the regime of economy. One such reserve of rational use of energy resources, as is pointed out in the Decree of the CPSU Central Committee and the USSR Council of Ministers, is the improvement of norm setting and accounting and the introduction into production of technically substantiated progressive norms of expenditure of fuel, electric power and thermal energy. At the present time, practically the entire production expenditure of energy is regulated at the oblast's machine-building enterprises, which excludes the possibility of including energy expenditure under "miscellaneous production needs." Such work is also going on in other sectors of the oblast's economy. Specific expenditures of electric power have been reduced since the start of the five-year plan for most plants and associations 8-20 percent. At many plants--the Yaroslavl' engine and polymer machine-building plants, the Rybinsk Printing Machine Plant, the Semibratov Gas Purification Equipment Plant and others--expenditures of electric power are metered by instruments installed in each shop and in energy-intensive equipment.

But a significant defect in the regulation of energy is the use at a number of enterprises of the so-called statistical method of computing norms; this does not take into account actually attained specific expenditures for the preceding year and planned organizational and technical measures for economy of energy resources.

For this reason, excessive norms were in use at a number of enterprises in 1980. Thus, specific norms, exceeding the specific expenditures attained in 1979, were approved by superior operational organizations for Rybinsk Plant for Road Machines and the Yaroslavl'Krasnyy Mayak Plant. Such a practice does not impel collectives of enterprises to strive for full realization of available reserves nor to introduce equipment and manufacturing processes with smaller specific energy outlays.

An impermissible violation in planning is changing in the course of the year in the direction of an increase of initially approved norms of energy consumption. Thus, the Soyuztorgmash Association approved in February for the Yaroslavl' Plant of Refrigerating Machines a norm of expenditure of electric power for 1,000 rubles of gross production; later it was raised. As a result, instead of an overexpenditure of 2.3 percent, the enterprise's management reported an economy in the amount of 2.6 percent. Why eliminate losses and utilize reserves, which, according to an estimate of the inspectorate of the State Inspectorate for Industrial Power Engineering and Power Engineering Surveillance, exceed 1 million kilowatt-hours of electric power per year when it is possible without burdening oneself with concerns to report an "economy"? It is clear that such an approach to the regime of economy significantly damages it. Unfortunately, the aforesaid defects have occurred at a number of enterprises during the current year. For example, norms have been approved for above actual expenditure of electric power for a number of enterprises: the Yaroslavl' Engine Plant and the Rybinsk Hydromechanization Plant--by 0.6 percent, the Rybinsk Road-Machine Plant--by 2 percent, the Yaroslavl' Krasnyy Pereval Factory--by 8 percent. Understandably, an "economy" computed according to such norms will not promote the saving of fuel and power resources, the deficit of which is felt by the national economy.

At the present time discussion is continuing at party organizations and at general meetings of workers in the oblast on tasks relating to further intensification of the regime of economy and rational utilization of resources in the light of the Decree of the CPSU Central Committee and the USSR Council of Ministers. The bureau of the CPSU obkom decided to hold on 17 September a political day for all these questions at all the labor collectives. More than 15,000 persons presenting reports of party committees, lecturers of Znaniye Society and political information officers and agitators analyzed that day in their speeches the concrete contribution of each collective to the solution of the said tasks. Necessary measures will be taken in regard to questions, comments and proposals of workers relating to more economical expenditure of fuel, power and raw materials following their generalization by the CPSU obkom's secretariat.

The industry of Yaroslavl' has initiated the first year of the 11th Five-Year Plan by overfulfilling the seven-month plan for production sales by 40 million rubles. The entire 3-percent growth of production volume is due to increased labor productivity. Plans have been fulfilled for assimilation of capital investment and operational start-up of fixed capital and housing for the first six months. This is a guarantee of successful implementation of the decisions of the 26th CPSU Congress by the workers of Yaroslavl'.

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DEVELOPMENT OF ECONOMY OF EASTERN REGIONS

Riga SOVETSKAYA LATVIYA in Russian 30 Oct 81 p 2

/Article by Academician Nikolay Nekrasov, chairman of the Commission for the Study of Productive Forces and Natural Resources attached to the Presidium of the USSR Academy of Sciences (NOVOSTI PRESS AGENCY): "The Offensive Against Siberia"/

/Text/ At the request of NOVOSTI PRESS AGENCY correspondent Aleksandr Biryukov Academician Nikolay Nekrasov, chairman of the Commission for the Study of Productive Forces and Natural Resources attached to the Presidium of the USSR Academy of Sciences, tells about the prospects of the development of the economy of the eastern regions of our country.

The intention to intensively develop further the eastern regions of our country, which was discussed at the 26th CPSU Congress, is extremely sound. About three-fourths of the all-union reserves of petrolem, coal and gas are concentrated in Siberia. Today the contribution of the region to the production of industrial output of the country is already very significant--about 10 percent. At present the industry of Siberia produces more output than the entire country produced in 1940.

A new form of the organization of industry--territorial production complexes which include large highly mechanized and automated enterprises--is being adopted in the expanses of Siberia. Owing to this the productivity of national labor for the region is more than 1.2-fold higher than the average union productivity. Its increase for the regions of Siberia is especially important both due to the acute shortage of working hands and in connection with the very large expenditures on economic development and the organization of the transportation of products. For example, 50 billion rubles have been invested in the development of the petroleum and gas industry of Western Siberia.

However, the advantage of the development of the eastern regions even given the considerable expenditures is obvious. A typical example is the petroleum of Tyumen'. The basin, which now provides the bulk of the petroleum and gas of the country, was developed in 10-15 years. This is an unprecedented rate in world practice. Here 500 million tons of fuel of the highest conditions, which has already begun to be recovered, occur practically at the surface. Commercial reserves of nonferrous metals, phosphorous ores and other elements for almost the entire list of the periodic table of D. I. Mendeleyev are present in the northern part of Siberia.

Whereas earlier the preferential growth of the Siberian economy was achieved mainly owing to the extractive and procurement stages of production, during the 1980's the center of gravity will shift to the stages of the thorough and complete processing of raw materials.

Ferrous and nonferrous metallurgy, the chemical and pulp and paper industries will be developed in the southern zone of Siberia and the Far East. The Tyumen', Tobol'sk and Achinsk petrochemical giants and other Siberian chemical enterprises will provide the bulk of the all-union increase of various semimanufactures and finished products of organic synthesis. In the future the development here of the large-scale production of potassium and phosphorous fertilizers will promote the development of agriculture.

The building of large-scale machine building enterprises for meeting the needs for special technical equipment and equipment is being outlined and has already begun. They are the Krasnoyarsk Plant of Heavy-Duty Excavators, the Abakan Industrial Complex for the production of railroad cars and containers, the electrical equipment enterprises in Minusinsk, enterprises of chemical and petroleum refining equipment and mining equipment.

The solution of typically "northern" problems holds great potentials. Among them there is, for example, the development of special equipment which is capable of operating at low temperatures. New construction materials, alloys, industrial rubber items and lubricants, which withstand the Siberian cold, have been developed. The changeover to equipment of northern design for Siberia alone should yield a saving of about 2 billion rubles a year.

Among the typical "northern" problems specialists today also single out the development of transport. The concept "the development of northern regions" itself includes the struggle against space. The coefficient of transport development of Siberia at present is approximately one-tenth as great as in the central regions of the country. Permanent roads are needed, and not winter roads, which are laid along the beds of rivers or through swamps; new rail and air routes are needed. The Baykal-Amur Railway Line, which is under construction, is the core of the solution of this problem. The program of the economic development of the zone of the Baykal-Amur Railway Line is one of the most important programs in the region. Many years will be needed for its solution, although the railway line will be put into operation by the end of 1985. It is a matter of the development of a territory of 1.5 million km^2 with enormous natural resources.

Proposals on the development along the railway line of a new industrial zone have been drawn up by the Scientific Council for Problems of the Baykal-Amur Railway Line of the USSR Academy of Sciences. In particular, the formation of the Upper Lena Territorial Production Complex with a powerful wood processing industry and the extraction of potassium raw materials is planned. The creation of a metallurgical base on the basis of the iron ores and coal of Southern Yakutia is in prospect.

In addition to the global problems of the development of large expanses there are also technological problems, which are connected with more efficient means of the formation of industry. The gained experience suggests new forms of the development of industry and attests to the need to change today the very approach to the development of production capacities. It is best of all, when producing sets of

technological equipment at operating plants, to adjust them there and to delivery them in ready-to-use blocks to the place of permanent operation. With installation this provides a substantial saving of time and labor expenditures and eliminates many difficulties which are connected with start-up operations. Such a method is already being used in Tyumen'.

Siberia requires culture in the broadest sense of this word--from the interaction between people and organizations to the interrelations of man with northern nature. Particular circumspection is required when working its resources. I have in mind the profound culture of engineering thought, which has social and ecological sensitivity. There is no other way to avoid irreparable harm. Siberia is not only the largest source of raw materials, fuel and energy, but also the largest reserve of vacant territory and primordial nature. The importance of such an aspect in the future may prove to be very great.

Therefore it is necessary to make the new regions there permanently habitable and to build comfortable settlements and cities. We have worthy examples for imitation: Noril'sk and Mirnyy, Bilibino and Iul'tin--cities and settlements where purely northern decisions have been successfully implemented.

It is clear that often this requires additional capital investments. But, as they say, "the game is worth the candle," the assets are being invested in a dependable matter which makes not only economic, but also great social sense.

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REGIONAL DEVELOPMENT

SOUTHERN TAJIK TERRITORIAL PRODUCTION COMPLEX

Moscow PLANOVOYE KHOZYAYSTVA in Russian No 10, Oct 81 pp 18-32

/Article by Chairman of the Tajik SSR State Planning Commission K. Makhkamov: "The Formation and Development of the Southern Tajik Territorial Production Complex"/

/Text/ The development of territorial production complexes is an important direction of the economic policy of our party at the present stage. In the Accountability Report of the CPSU Central Committee to the 26th party congress General Secretary of the CPSU Central Committee L. I. Brezhnev noted: "A typical feature of the 1970's is major changes in the distribution of productive forces. In conformity with the decisions of the 25th CPSU Congress the formation of territorial production complexes is under way in the European part of the RSFSR, in the Urals, Siberia, the Far East, Kazakhstan and Tajikistan."[1]

The formation of the Southern Tajik Territorial Production Complex became possible under the conditions of mature socialism, when a mighty economic potential was created in the country, the dependence of some sectors of the national economy on the rate and effectiveness of the development of others increased immeasurably, when the task of the more and more complete meeting of the material and spiritual needs of the Soviet people was placed in the forefront. Objective factors of the development of the economy and infrastructure of the entire republic had an influence on its formation.

Just 60 years ago Southern Tajikistan was called Eastern Bukhara and was the most backward part of the feudal Bukhara Emirate. The population of Southern Tajikistan was illiterate and lived under the conditions of a seminatural economy, in poverty and without rights.

With the establishment of Soviet power the socioeconomic condition of Southern Tajikistan changed. The cultivation of cotton and its industrial processing became the main directions of its economic development. Now three-fourths of the entire crop of raw cotton in the republic are harvested here, nearly the entire production of its fine-fiber types is concentrated here. Other sectors of industry and agriculture and all types of modern transport have undergone considerable development, new cities have arisen (including the republic capital--Dushanbe, the size of the population of which exceeds 500,000), the well-being and cultural

1. "Materialy XXVI s"yezda KPSS" /Materials of the 26th CPSU Congress/, Moscow, Politizdat, 1981, p 33.

level of the population have increased incomparably. At the same time the natural and raw material resources of Southern Tajikistan for a long time were not fully utilized.

In the development of the territorial production complex in Southern Tajikistan the water power potential of this region was an important economic condition. The energy factor is the main factor in the formation of the complex. This region accounts for 49 percent of the Central Asian water resources and about 8 percent of the all-union water resources. The hydraulic developments built here serve for power, irrigation and water management purposes. Along with hydroelectric power stations large reservoirs for the catching of the runoff and the regulation of the discharge of water are being built. The building of hydraulic developments will increase the irrigating capacity of the Amudar'ya River, in its basin the area of land in agricultural circulation will be increased. Moreover, the electric power of the mighty Tajik hydroelectric power stations will supplement the fuel and power balance of the republics of Central Asia and the country as a whole.

Another important factor, which is responsible for the formation of the Southern Tajik Territorial Production Complex, is the presence here of a number of deposits of minerals, including chemical raw materials (common salt, limestones, dolomites), several rare metals, raw materials for construction materials, which is creating a base for the development of the corresponding sectors of industry. The resources of undeveloped lands in the southern part of Tajikistan, which are suitable for the growing of cotton, are limited, but there are large areas of arable land of the piedmont and alpine slopes, which can be used for vineyards and orchards, as well as for the planting of unirrigated (dry) fruit plantations.

Finally, very favorable conditions for the rapid economic development of the Southern Tajik Territorial Production Complex are being created due to the availability of a reserve of manpower resources and the high rate of growth of the population.

A plan of the formation and development of the Southern Tajik Territorial Production Complex has been elaborated by the Tajik SSR Academy of Sciences jointly with the Council for the Study of Productive Forces attached to USSR Gosplan and several other scientific institutions of the country. The territorial and production composition of the complex and the prospects of the development of all the sectors of physical production and the nonproductive sphere are specified and substantiated in it. The Southern Tajik Territorial Production Complex was specified as consisting of three intersectorial complexes: the power-industrial complex, the agro-industrial complex and the complex of labor-consuming works. All the existing electric power stations and power-consuming enterprises of nonferrous metallurgy and the chemical industry and the ones being newly built are included in the power-industrial complex, which is the heart of the Southern Tajik Territorial Production Complex. The other intersectorial works and the entire infrastructure are being formed around it.

The agro-industrial complex encompasses agriculture and sectors which ensure the storage, processing and sale of agricultural products. Southern Tajikistan, along with the further increase of the production of fine-fiber cotton, may become one of the largest regions of the country for the growing of grapes and fruit. The formation within the Southern Tajik Territorial Production Complex of labor-consuming works is connected with the need to ensure the most complete employment of the rapidly increase manpower resources and to increase the level of the skills training of the able-bodied population.

The construction of the Nurekskaya GES and the largest consumers of its power--the Tajik Aluminum Plant and the Yavan Electrochemical Plant, as well as the Termez-Kurgan-Tyube - Yavan Railroad--was the first stage of the formation of the Southern Tajik Territorial Production Complex, which is already approaching completion. The commenced construction of the Rogunskaya GES on the Vakhsh River with a capacity of 3.6 million kW, as well as the Baypazinskaya GES with a capacity of 600,000 kW should be considered the second stage of the formation and development of the complex. The third stage involves the construction of the hydroelectric power stations which are envisaged by the plan of the use of the water power resources of Southern Tajikistan.

The construction within the Southern Tajik Territorial Production Complex of hydroelectric power stations, which are among the largest not only in our country, but also on the scale of world water power construction, along with the power-consuming enterprises of nonferrous metallurgy and the chemical industry, which are being built on the basis of their capacities, is placing Tajikistan among the republics with a sufficiently mighty power potential and is making it a major supplier of products of the aluminum and chemical industries. The high rate of development of power engineering is creating favorable conditions for the development here of other sectors of industry and agriculture and for the solution of problems of a social nature.

The construction of the Nurekskaya GES (which is unique technically) will make it possible not only to meet for a long period the power needs of the national economy of Southern Tajikistan, but also to create on the basis of inexpensive electric power efficient power-consuming works, and then to ensure the feeding of a part of it into the Central Asian power system.

The preliminary work on the construction of the first section of the Nurekskaya GES began in 1961. In 1972 the first two units of the station were put into operation. The last unit, the 10th, was started up in September 1979, and now the station has reached the rated annual capacity--2.7 million kW. Discharges of water, which amount to 2.5 billion m^3/year, have been made from the Nurek Reservoir since 1972. In spite of the fact that the Nurekskaya GES has been operating at full capacity only since late 1979, the expenditures on its construction were recovered by the end of 1980.

At the indicated GES many engineering decisions were used in hydraulic engineering for the first time. The "workers' relay race," which has become widespread at other important construction projects of the country and ensured at the final stage of construction the early placement of the last units into operation, originated here. Since the day of the start-up of the first units of the station about 40 billion kWh of electric power have been generated for the needs of the national economy of Tajikistan and the fraternal republics of Central Asia.

The construction of the Tajik Aluminum Plant (in Tursun-zade), which is a part of the Southern Tajik Territorial Production Complex, has been under way since 1965. Its building, especially during the first years, was hampered due to the lack of capital investments. Thus, only one electrolysis building was put into operation during the Ninth Five-Year Plan. In order to place the remaining electrolysis buildings into operation, during the 11th Five-Year Plan it is necessary to increase approximately 1.5-fold the assimilation of amounts of construction and installation work and to allocate not less than 40-45 million rubles a year. The

Tajik Aluminum Plant will be one of the largest in the domestic aluminum industry, it is being supplied with modern equipment, an advanced processing method, which ensures the protection of the environment against pollution, will be adopted here. The plant produces the highest quality metal in the country. Thus, in recent times about 90 percent of the virgin aluminum being produced has been of the highest grade with the State Seal of Quality.

At the Yavan Electrochemical Plant the construction of the objects of the first section has practically been completed. The capacities for the production of calcium hypochlorite, soda ash, liquid chlorine, chloride of lime and freons have been put into operation. The first batches of these products are now being produced at the plant. During the subsequent years of the present five-year plan it is planned to begin the construction of capacities for the production of chloromethane and household chemical goods.

In 1971 the construction of the Yavanskaya TETs was completed to supply the Yavan Plant with heat and steam, while in the same year the Dushanbe-Yavan gas pipeline with a length of 41 km was put into operation to improve the supply of the indicated plant and the Yavanskaya TETs with natural gas.

The now operating Termez - Kurgan-Tube - Yavan standard gauge railroad with a length of 264 km, the construction of which was completed in 1979, is among the important objects of the Southern Tajik Territorial Production Complex. The railroad will play an important role in the transportation of national economic freight.

The preliminary work on the construction on the Vakhsh River of the even more powerful Rogunskaya GES was begun in 1976 and that of the Baypazinskaya GES, with the use of the previously built dam of the hydraulic development, was begun in 1980 for the purposes of the dynamic development of the power base of the Southern Tajik Territorial Production Complex, the maximum utilization of the formed professional collective of hydraulic engineers, who have much experience in working on unique projects, as well as for the most efficient use of the powerful construction equipment and the bases of the construction industry.

The building of the most important projects of the Southern Tajik Territorial Production Complex with each year is having a greater and greater influence on the development of the economy of the entire republic. During the 10th Five-Year Plan 30 percent of the increase of the volume of industrial output was obtained from the power and power-consuming capacities of the complex, which had been newly put into operation.

The results in the increase of the power potential of the republic are especially perceptible: the generation of electric power for the power system of the Tajik SSR in 1980 came to 13.6 billion kWh, having increased 2.9-fold as against 1975, mainly due to the Nurekskaya GES. The generation of electric power at it during this period increased 5.4-fold and in 1980 came to 10.5 billion kWh. It should be noted that the republic power system is notable for a high level of the generation of water power, which serves as an important factor of the economy of organic fuel in the fuel and power balance of the country. With the placement of the Nurekskaya GES into operation the proportion of water power, which in 1980 came to 77.4 percent, increased considerably in the balance of the generation of electric power for the republic.

It should be noted that the building of the projects of the complex is changing radically the structure of industrial production in the republic, increasing the significance of industrial sectors in the total volume of the commodity production of output. During the past 5 years the sectors of heavy industry increased their proportion from 26.7 to 31.1 percent.

With the formation of the complex major social problems are being solved at the same time as production problems. A large amount of housing, social and cultural construction has been performed in the cities of Nurek, Tursun-zade and Yavan. Thus, in Nurek 155,000 m^2 of housing have been put into operation, in Tursun-zade--160,000 m^2 and in Yavan--98,000 m^2. A large number of schools, kindergartens and nurseries, vocational and technical schools, clubs, movie theaters, facilities of trade, personal service, public health and others have been built. However, the capital investments being allocated in the annual plans for housing, social and cultural construction, especially for the Tajik Aluminum Plant and the Yavan Electrochemical Plant, are already inadequate for the rapid improvement of the housing conditions of the construction workers and the workers of the enterprises. This is adversely affecting the progress of construction and is hindering the assimilation of production capacities and the attachment of personnel.

New important tasks on the further development of the complex have been set in the decisions of the 26th CPSU Congress. The Main Directions of USSR Economic and Social Development for 1981-1985 and the Period to 1990 stipulate at the Southern Tajik Territorial Production Complex to continue the construction of the Yavan Electrochemical Plant, to place new capacities into operation at the Tajik Aluminum Plant, to launch the construction of the Rogunskaya GES and to place the Baypazinskaya GES into operation, to increase the generation of electric power in the republic to 16 billion kWh.

During the 11th Five-Year Plan the volume of production of industrial output for the complex should increase 1.8-fold, which to a considerable extent determines the growth rate of industrial production for the republic as a whole.

In conformity with the decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality," starting with the draft of the plan for 1981 and for the 11th Five-Year Plan, on the basis of the suggestions of the ministries and departments, the enterprises of which are included in the complex, drafts of the plans of the development of the Southern Tajik Territorial Production Complex were drawn up in accordance with established procedure. During the more than 10-year period of the formation of the complex definite experience has been gained in the management of its economic mechanism in the area of both planning and management. At the same time during the planning of the territorial production complex there were discrepancies and omissions, which were connected most often with the lack of uniform management principles, as a result of which some elements of disproportions between the placement of production capacities into operation and the turning over of social and cultural projects were permitted.

Measures on the further improvement of the management of the complex, including decisions which have to be checked in practice, have been elaborated in the republic. Thus, as an experiment during the 11th Five-Year Plan at the construction site of the Baypazinskaya GES the functions of client and contractor are being combined in

a single organ. In other words, the GES will be built, checked out under pilot operation at full capacity and turned over to the operating personnel "turnkey." In case of positive results of the experiment such a type of the organization of construction may become the prototype of the most perfect system of the management of the development and formation of territorial production complexes.

How will the Southern Tajik Territorial Production Complex, and first of all its power base, be further developed?

In October of last year an applied science conference on the problems of the comprehensive development of electric power engineering and the power-consuming works of the Southern Tajik Territorial Production Complex was held in Dushanbe. Executives and prominent scientists of the USSR Academy of Sciences, its scientific research institutions, the academies of sciences of the Tajik SSR and other union republics, workers of sectorial institutes, ministries and departments of the country and representatives of USSR Gosplan and of the design organizations involved in the development and formation of the complex took part in the work of the conference. The need to solve a number of problems, which are connected with the improvement of the planning of the construction of the projects, the improvement of the organizational forms of the management of the complex, the broadening of the scientific research and design work and others, was noted in the conference recommendations.

The water power development of the Vakhsh River--the construction of the Rogunskaya GES--will be continued during the 1980's. Two more GES's may be built on this river: the Shurabskaya GES with a capacity of 600,000 kW and the Sangtudinskaya GES with a capacity of 800,000 kW. A tributary of the Vakhsh--the Obikhingou River--has considerable energy resources (more than 9 billion kWh). Here the Sangvorskaya GES, at which the generation of power can be increased to 2 billion kWh, is of the greatest interest. At the same time the use of the electric power of the hydroelectric power stations located in the southern part of Tajikistan in the base mode will also be economically efficient. According to estimates, these stations in the base mode will be no less efficient than the stations running on mineral fuel in other regions which have a great power potential. In this connection favorable conditions are being created for the construction of a second aluminum plant in Southern Tajikistan. In our opinion, the Council for the Study of Productive Forces attached to USSR Gosplan jointly with the All-Union Scientific Research Institute of Planning of Hydroprojects imeni S. Ya. Zhuk, the All-Union Scientific Research Planning Institute of Power Systems and Electric Power Networks and the All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry should examine the question of its location.

As is known, the operation of the Tajik Aluminum Plant, which is under construction (and is already partially operating), on brought in aluminum oxide is envisaged, and this is justified by inexpensive electric power. However, in the future there is the possibility of producing raw materials locally, at least in part. The development of the deposit of nepheline syenites in Turpi, in addition to aluminum oxide, could provide a number of needed chemical products and raw materials for the cement industry, although the technology of processing nepheline syenites so far has not been developed. We would like the USSR Ministry of Nonferrous Metallurgy to study this problem.

The question of setting up within the Tajik Aluminum Plant the production of rolled products and foil also needs to be solved during the 11th Five-Year Plan. This will improve the supply of Tajikistan and all of Central Asia with items made from aluminum, the demand for which is great, and, moreover, will make it possible to involve in social production the manpower resources which are rapidly growing in the republic.

The need for the coordinated planning of the construction of all the projects and the elimination of the lag in the construction of housing, cultural and personal facilities at the Tajik Aluminum Plant and the Yavan Electrochemical Plant are among the urgent problems. At present at the Tajik Aluminum Plant the number of workers has reached 83 percent of the planned number, but only 50 percent of the amount of housing stipulated by the estimate has been put into operation. Cultural and personal facilities are also being built slowly at the Yavan Electrochemical Plant. Meanwhile practice has shown for a long time now that at such large construction projects it is necessary for the placement of cultural and personal facilities into operation to lead the placement of production capacities into operation.

Attempts at the unified planning of the construction of the projects of the complex were made prior to the 11th Five-Year Plan. For example, a title list of the construction of the most important projects, in which the coordination of the assets being allocated with the date of the placement of the projects into operation was taken into consideration, was approved for the Ninth Five-Year Plan for the Southern Tajik Territorial Production Complex. However, the capital investments projected in this title list were allocated in the full amount only by the USSR Ministry of Power and Electrification; the Ministry of Nonferrous Metallurgy and the Ministry of the Chemical Industry in the annual plans called for reduced amounts of capital investments. A title list for the complex was not approved at all for the 10th Five-Year Plan. In accordance with the decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality" the title lists are recognized as a permanent plan document, and it must be assumed that such situations will not occur during the 11th Five-Year Plan. For this it is expedient to elaborate and approve within the State Plan of Economic and Social Development for the 11th Five-Year Plan and the Period to 1990 a comprehensive goal program of the development of the Southern Tajik Territorial Production Complex, which reflects the main directions of the use of energy, mineral raw material and other resources. In the program and the consolidated plan of capital construction of the complex the coordination of the placement into operation of capacities and facilities should be ensured, the performers and the dates of the performance of the work according to all the stages of designing, construction and installation should be specified; the questions of the provision of the construction workers and operators with housing and of the enterprises being put into operation with personnel and others should be solved in interconnection.

In conclusion I would like to stress that the Southern Tajik Territorial Production Complex is stimulating the rapid development of the productive forces of the republic and is having an exceptionally favorable influence on its socioeconomic development. The progressive development of the complex is vivid confirmation of the statement of General Secretary of the CPSU Central Committee L. I. Brezhnev that "the industrial development of new regions is important both socially and politically. The production collectives which arise there bear high standards of labor

and daily life, a new, modern pace of life. Another vivid chapter is being added to the chronicle of the heroic achievements of the Soviet people."[2]

2. "Materialy XXVI s"yezda KPSS," p 33.

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RSFSR-ESTONIAN SSR ECONOMIC TIES

Tallinn SOVETSKAYA ESTONIYA in Russian 15 Nov 81 p 3

/Article by Candidate of Economic Sciences K. Kukk, senior research associate of the Institute of Economics of the Estonian SSR Academy of Sciences: "RSFSR-Estonia: Economic Ties"/

/Text/ The RSFSR stands out among the union republics both as the largest supplier of the most diverse goods to the Estonian SSR and as the main consumer of the products of our republic.

According to the data of the latest intersectorial balance of the production and distribution of output in the national economy of the Estonian SSR the RSFSR accounts for 54.6 percent of our imports from other union republics. In exports its share is even greater--59.9 percent. The RSFSR supplies us, for example, with more than 90 percent of the fuel imported from the fraternal republics, about 80 percent /as published/ and more than 60 percent of the ferrous metals, 80 percent of the output of the timber, wood processing and pulp and paper industry, 65 percent of the output of machine building and metalworking, about 60 percent of the chemical products and construction materials. At the same time it is also the largest consumer of the output of the majority of sectors of our industry, as well as agriculture.

If we analyze the sectorial structure of the economic ties of the Estonian SSR with the RSFSR, we will see that in imports the leading place belongs to the output of machine building and metalworking (33 percent of the total imports from the RSFSR), after it come light industry (14 percent), the chemical and fuel industries (10 percent each) and so on. On the other hand, the sectors of specialization of the Estonian SSR in the all-union division of labor clearly dominate in the structure of exports--light industry (29 percent), machine building and metalworking (22 percent) and the food industry (21 percent).

Of the machine building products the RSFSR supplies us first of all with equipment for many sectors of industry, means of transportation (passenger cars and trucks, freight cars), electrical items (low-voltage and high-voltage equipment, electric motors, cable items), instruments (computer hardware, instruments for the monitoring and regulation of technological processes), tractors and other agricultural machinery, as well as the most diverse household appliances and machines (refrigerators, televisions, radios). The most important machine building centers of the country--the Central, Volga River, Urals and Northwestern Economic Regions--are

the main suppliers of the named items. On its part of the products of machine building and metalworking the Estonian SSR sends to consumers of different autonomous republics, oblasts and krays of the RSFSR electrical items (electric motors, power transformers, high-voltage equipment, cable items) and instruments (for the monitoring and regulation of technological processes and radio measuring instruments). The chain bucket reclamation excavators produced in the Estonian SSR are being used first of all in the Nonchernozem Zone, while air-cooling equipment is being used in the petroleum and gas industry of the Volga River region, Western Siberia, the Urals and the Northern Caucasus. Moreover, power equipment, agricultural machinery, equipment for the dairy industry, safety belts, radio-phonographs and others are exported to the RSFSR.

The Estonian SSR receives from the RSFSR, particularly the Central and Northwestern regions, finished cotton, wool and silk fabrics and garments. At the same time the enterprises of our republic deliver to many regions of the RSFSR knitwear and garments, cotton and wool fabrics and footwear.

The Estonian SSR is receiving in more significant amounts from many regions of the RSFSR products of the chemical industry (mineral fertilizers, chemical fibers, plastics, varnishes, paints, tires and others), the fuel industry (petroleum products, natural gas, fuel shale) and the timber, wood processing and pulp and paper industry (lumber, pulp, paper, cardboard), as well as ferrous and nonferrous metals and rolled products made from them. Among the products of other sectors there should also be noted in the imports from the RSFSR cement, items of the glass and porcelain industry, some food products (vegetable oil, cognac, coffee, tea, flour), medicines, grain, books, journals and others.

In the exports of the Estonian SSR to the RSFSR we should dwell in a bit more detail on the food industry. The most important items of export of this sector are canned fish, which is delivered to all the economic regions of the RSFSR, and meat and dairy items (meat, sausage, whole milk products, cheese), which are consumed first of all in the Northwestern and Central regions. Confectionary items, liqueurs and vodka are also exported.

Of the products of other sectors it would be possible to add in the exports also electric power, products of shale processing, mineral fertilizers, synthetic resins, plastic items, furniture and other products of wood working, paper, cement, soft roofing material, jewelry, toys and others.

What explains the extensive economic ties of the Estonian SSR with other republics, particularly the RSFSR? It is a matter first of all of the fact that the development of a general-purpose production complex, which meets the present requirements of production and at the same time is oriented exclusively toward local consumption, is objectively inconceivable in such a small republic as the Estonian SSR. The limitedness of material and manpower resources, as well as of local consumption for some types of products requires us to take an intensive part in the all-union division of labor and to develop comprehensively our economic ties.

Of course, the broadest ties have been formed here with the RSFSR, which constitutes 76 percent of the territory and 52 percent of the USSR population and produces about 60 percent of the national income of the country. The diversity of its natural resources and the structure of its economy, as well as the capacity of the market stem from this. At the same time the RSFSR is our neighboring

republic. But this is also a direct prerequisite of the intensive development of economic ties, first of all with its adjacent regions. Here I would like to single out another trend--the more rapid development of ties with the eastern regions of the RSFSR, which is connected with the intensification of the all-union division of labor and the intensive development of the eastern regions of the country. Since the eastern regions of the RSFSR are for the present at the investment stage, the export of our products exceed by threefold their deliveries to us (it should be added that design and construction organizations of our republic are also participating in the development of the Western Siberian plain and the zone of the Baykal-Amur Railway Line).

Undoubtedly, the overall development of the productive forces of the Estonian SSR and the RSFSR are the most important prerequisite of the further development of the economic ties between them.

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